DOCUMENT RESUME

ED 436 654 CE 079 509

AUTHOR	Bouchard, Paul
TITLE	A Study of Self-Directed Professionals of High Attainment.
PUB DATE	1996-00-00
NOTE	14p.
AVAILABLE FROM	Paul Bouchard, GIRAT, Department of Education, Rm. S-LB 579, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec, Canada H3G 1M8 ($2).
PUB TYPE	Reports - Research (143)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Adult Education; *Adult Learning; *Context Effect; Educational Environment; Educational Research; *Independent Study; Influences; Interaction; *Learning Processes; Learning Strategies; Literature Reviews; Models; Outcomes of Education; Performance Factors; *Personality Traits; Professional Development; *Professional Occupations; Student Educational Objectives; Success
IDENTIFIERS	*Self Direction

ABSTRACT

The determinants of self-directed learning (SDL) among professionals of high attainment were examined through open-ended, semidirected interviews with a purposeful sample of eight professional men and women who have acquired identifiable, high-level professional knowledge/skills typically taught in postsecondary learning institutions without ever having enrolled in postsecondary programs in their field. The informants were recognized professionals in the following fields: computer analysis, structural engineering, media technology, accounting, training, journalism, computer research systems, and management/new media. An analysis of the informants' comments revealed three main elements of the SDL process: (1) emergent goal structure (a fairly clear set of professional objectives from the outset); (2) unusual learning strategies (including hiring consultants on a one-time-only basis, delegating research tasks to employees, validating new knowledge by discussing business with competitors, and modifying learning objectives to match available resources); and (3) "autodidactic leap" (learners took actions that literally forced them to learn on their own, often under considerable pressure). The interviews also established that successful SDL is determined by a combination of personality traits (including creativity, optimism, high capacity for learning, and curiosity) and environmental factors (including particularly stimulating episodes on the job and a boss's or colleague's suggestion that the informant assume new functions or responsibilities). (Contains 14 references) (MN)

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A STUDY OF SELF-DIRECTED PROFESSIONALS OF HIGH ATTAINMENT

Paul Bouchard
Concordia University, Montreal

For several years, researchers and educational practitioners have been scrutinizing the SDL crystal from all possible angles with the strengthening belief that in that concept lies a promising venue for understanding - and hopefully - for improving adults' ability to learn autonomously. But the more we look at it, the less we are satisfied with simple or obvious explanations. Today, it is not enough to say that "some people" are blessed with a higher-than-average capacity for autonomous learning; neither is it satisfactory to ascribe self-directed learning to a set of predetermined skills that can be learned by anyone, anywhere; and SDL cannot be attributed solely to chance occurrences outside the learner's control. Indeed, the question, "What makes self-directed learning happen?" remains for the most part intact.

THREE SETS OF EXPLANATIONS

A look at the early literature shows three possible answers to that question. One of the first insights into that problem was an indirect outcome of Allen Tough's seminal work, "Learning Without a Teacher" (1967). In his study, Tough found that many adults display a considerable propensity for autonomous learning. But interestingly, the subjects in Tough's study were mostly people of relatively high educational attainment (Brookfield, 1985). Beyond Tough's oversight in convening his sample, it could be inferred from that observation that college-educated people could indeed possess more developed skills when it comes to self-directed learning. It can be further implied that academic learning, with its emphasis on formally set objectives, carefully designed learning activities, and expert-selected resources, induces learners to internalize the principles of instructional methodology to the point where eventually, they become competent to accomplish not only the *learning tasks* necessary to acquire new knowledge and skills, but also in conducting the *teaching tasks* involved in planning, designing, and carrying out their own instruction. It is in this sense that the subjects of Tough's initial study were able to "Learn Without a

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Teacher": they were capable of taking on the instructional role, and thereby of being, in fact, their own "teacher".

A second explanation for the occurrence of self-directed learning is simply that some people just are really good at learning, i.e. they can assimilate whatever information they choose quickly and efficiently. One consequence of that explanation is that proficient learners should feel comfortable in many situations, whether each situation is to a degree self-directed, or other-directed. This ability for learning, in itself, does not point to a specific set of competencies for self-direction. The difference between learning in either self- or other-directed mode will be largely the result of the specific contingencies of each situation, and not of any inner predisposition for autonomous learning in particular. In many cases for example, people become self-directed learners "by default" since there are no formal alternatives for achieving their goals. They do not learn *because* of their inner propensity for self-direction, but *in spite of* the non-availability of alternatives in formal settings.

A third explanation of "Why self-directed learning occurs" is that in certain circumstances, people will be more likely to acquire knowledge and skills autonomously. Organizational researchers have been particularly attracted to that model because it offers potential for creating learning environments. Exactly what those circumstances are has not been explored in detail, but Spear & Mocker (1984) offer a typology based on three polarized dimensions, namely whether the learning is "anticipated" or "unanticipated", whether the learning episodes represent "single" or "multiple" events, and whether the (multiple) learning events are "related" or "unrelated'. Interestingly, of the three "elements" used by Spear & Mocker to derive their analysis (learner expectations, learner skills, available resources), only one has to do with the world external to the learners themselves: the resources available in their environment.

Thus, we have three sets of explanations for the existence of self-directed learning, namely that SDL is a function of (1) the individual's self-instructional proficiency; (2) the learner's built-in personality characteristics; and (3) fortuitous occurrences in the immediate environment. However, these explanations fall short of "explaining" the occurrence of self-directed learning since each of the antecedents, taken individually, do not offer a satisfactory causal chain. For example, two people with similar personalities, similar levels of formal education, and in similar circumstances, may or may not learn, or learn autonomously, or even share a similar approach to learning. Our hope in conducting this study has been that by looking at these three sets of factors together, and by examining the relationships between them, it would be possible to produce a wider view of what could be called the etiological foundations of self-directed learning for professional development.

RESEARCH DESIGN

Certain assumptions were made regarding the nature of professional self-directed learning for the purpose of this study. The assumptions were: (1) that as a learning mode, SDL is a tangible phenomenon; (2) that it leads to desirable consequences; and (3) that as a concept it is distinct from "other-directed learning". These parameter were considered to be defining features of SDL. In order to meet the 3 conditions (tangibility, desirability, and distinctness), learning projects were sought out according to the following criteria: they should be directly related to professional development (tangibility); they should have led to some significant achievement (desirability); and the possibility of pursuing the same learning in a "formal" setting should have been present, therefore confirming our informants' preference for self-directed learning over formal alternatives (distinctness).

The problem of distinctness can be better understood by considering that in some cases, self-directed learning occurs because it is the only means available to attain one's objectives. For example, a parent living in a remote area decides to learn about childhood development through reading. In such a case, self-directed learning cannot be presented as a distinct mode of learning that can be opposed to other modes. Learners merely learn "on their own" because there is no other way to achieve their goals. Inversely, many professionals are required to obtain their qualifications exclusively through the formal schooling system. Again, it cannot be said that *choose* formal over self-directed learning. In both situations, it is irrelevant to ask why self-directed learning occurred or did not occur. This is illustrated in figure 1.

THE RESULTS

The sample was a "purposeful" one, in the sense that it was assembled informally, with no other specification than the requirement that informants match two predetermined criteria: (1) the informants have acquired identifiable, high-level professional knowledge/skills (defined as knowledge/skills typically taught in post-secondary learning institutions); and (2) the learners did not acquire their knowledge/skills in a formal setting (i.e. they were never enroled in a post-secondary program in their field).

Eight professional men and women of high achievement, possessing no post-secondary schooling in their field, were asked to participate in open-ended, semi-directed interviews. The informants were recognized professionals in these areas:

1. Computer analysis
2. Structural engineering

3. Media technology
4. Accounting
5. Training/HRD
6. Journalism
7. Computer research systems
8. Management / newsmedia

The interviews were transcribed and coded; 529 quotes were extracted using a word-processor-based qualitative analysis technique. Quotes were then reduced to a set of 155 paraphrased statements in order to eliminate duplication.

The framework for content analysis was based on elements derived from the literature review. The determinants of self-directed professional development were classed according to three overarching categories, namely: factors related to the *individual* learners; factors related to the *process* of self-directed learning; and factors related to the *environment* in which the learning occurred. Each category was subdivided into sub-categories designed to accommodate in the most economical fashion all of the data. What emerged from the analysis was an integral view of the determinants of self-directed professional development.

Self-Directed Learning as Process

If the assumption is true that self-directed learners manage their own teaching tasks, an important part of the SDL process, it would be interesting to find out just what those tasks are from their own point of view. The informants were asked to talk about WHAT they did when they learned on their own. Three main elements were found, namely an emergent goal structure; a set of specific learning strategies; and the "autodidactic leap".

An emergent goal structure. At the outset, the learners typically had a fairly clear set of professional objectives. However, their goals had little in common with those usually formulated by educators in the guise of "anticipated learning outcomes". From the self-directed learners' point of view, the real learning outcomes were not so much the knowledge and skills acquired through

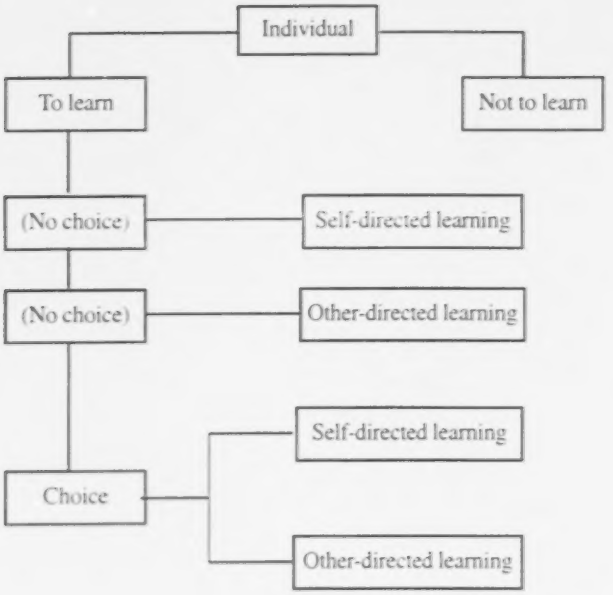

Figure 1: Autodidactic choice as a means of differentiating between the propensity for self-directed learning and other-directed learning.

learning, but the actual effects that these new skills would have on their lives. In the context of professional development, Dubin (1990) has referred to the "valence" of the learning activity as the basis for the learner's decision to engage in the learning process. In our study, the actual learning goals were not identified by the learners before starting their learning process, but they were rather constructed heuristically throughout their progression toward their professional goals. In this way, learners were able to adapt to the particular contingencies of the moment, without losing sight of their overall intent. This finding confirms the prevalence of a non-linear, or emergent, goal structure in self-directed learning.

Unusual learning strategies. Learning strategies employed by the learners were as diverse as they were creative. Some of the most unusual strategies encountered were: hiring consultants on a one-time-only basis; delegating research tasks to employees; validating new knowledge by discussing with business competitors; modifying learning objectives to match the available resources (rather than the other way around). Not much time was spent learning in an "academic" mode, i.e. by synthesizing information from theoretical treatises.

The autodidactic leap. One of the most prominent features common to all projects was the initial *leap* taken by each learner at the outset of their project. The "autodidactic leap" can be characterized as an action taken by the learners, beyond which they had no other choice but to learn on their own, often under considerable pressure. This point-of-no-return left the learners virtually "flying without a net". In each case, although the actions taken were different, the results were strikingly similar. One informant, early in his career, actually falsified his qualifications in order to get a job. He then had to learn very quickly indeed when, to his dismay, he was hired on the spot as a computer programmer. A journalist quit her well-paying job in order to travel full-time to become "more knowledgeable about the world". Upon her return, she made a reputation as one of the best qualified writers on international affairs. Sam, an engineer without a high-school degree, admits that he still takes the occasional leap. At the time of the interview, he was preparing a bid for rebuuilding saltwater piers for the port authority. "I have never built anything like this, he says. The technology is brand new. I collected just enough documentation to make the tender; *if my bid wins, then there will be time to develop the expertise*." In all cases, the autodidactic leap represents one of the most prominent features of the process of self-directed learning for professional development.

SDL as Personality

Factors ascribed by the learners to themselves as *individuals* included a number of self-perceived personality traits and characteristics; some self-ascribed needs and aspirations; and a surprisingly

rich collection of ideas, thoughts, convictions, and beliefs of a philosophical nature, related to learning, work, and autonomy.

Among the self-ascribed personality traits, creativity, optimism, high capacity for learning, and curiosity were recurrent. However, other, less self-laudatory characteristics were also prominent: fear of failure, lack of patience, aversion to authority, rebelliousness, and low discipline, to name a few. The two sets of characteristics (self-laudatory and self-deprecating) seem to indicate that the informants were drawn to self-directed learning in part because they deemed themselves unsuited for learning in the traditional mode, where learners indeed are expected to deploy vast reserves of patience, subordination, discipline, etc. On the other hand, they displayed a strong belief in their personal efficacy for learning autonomously. Interestingly, this efficacy belief was not transferred to formal learning situations.

The informants were particularly loquacious when it came to their values and beliefs on topics related to work, learning, and autonomy. A number of these "personal theories" had to do with the perceived shortcomings of formal education. Others involved the need for upgrading work skills, and for greater initiative on the part of individuals in society. When asked if they advocated that others follow in their footsteps, most informants responded negatively. It seems that they imputed their attitude to their particular experience, while acknowledging that reality was "different for others". In particular, their generalized aversion for formal schooling was attributed to their own personal shortcomings, rather than to a belief that formal schooling could be an inappropriate way of learning for others as well.

Environmental Factors

The learners mentioned several types of events that functioned as triggers to their self-directed learning projects. These events were related to their work environment, their parental and established families, and their previous school environment. These were deemed "environmental" factors inasmuch as they represented the influence of the outside world on the learners' outlook and expectations.

The most important external influences for the informants were related to their work environment. For some, the trigger was a particularly successful or stimulating episode on the job. For others, motivation was reinforced by a boss or a colleague who suggested they take on new functions or responsibilities. These experiences seem to have played a major role in building the learners' self-confidence in preparation for the "autodidactic leap".

Four informants cited parental influence as a factor in their self-directed orientation. All of them came from families of low educational attainment, where formal schooling was highly valued. The informants themselves agreed that for most other people, schooling was an impor-

tant ingredient for success and happiness. Still, they admitted that personally, their own mode of learning was better. (Perhaps this has something to do with the fact that several informants considered themselves "misfits" in formal learning situations.) Other family influences that were cited included strong support from a spouse (one case), and the presence or expectation of a child as a motivation for a change in lifestyle (two cases).

Both good and bad previous school experiences were described by the informants. Happy experiences were cited as conditions that helped them develop a love for learning and the self-confidence to learn autonomously. Unhappy experiences were cited as one more reason to eschew formal learning. One informant realized that he was capable of learning on his own when an apathetic teacher failed to provide suitable instruction in an introductory statistics course. The fact that he learned *despite* that shortcoming reinforced his belief in himself as an independent learner.

Towards an Interactive Model

One interesting aspect of the informants' stories was the way that each set of factors interacted with each other to produce unexpected results. Determinants that were cited as having a positive influence on the learning project's realization, could very well have had the opposite effect. For example, for many women, being the sole caretaker of a young child can be seen as a reason to postpone more ordinary activities, let alone a major learning project. Similarly, unhappy school experiences could well have discouraged, rather than stimulated further learning. The learners' self-image was not found to be particularly illustrative of self-directed learning readiness (lazy, undisciplined, averse to most other-directed learning situations). Overall, the diversity of the learners' experiences throughout their lives does not point to a particular pattern of determination. Certainly, it cannot be inferred that when taken alone, any one of the three sets of factors satisfactorily answer the question, "What makes self-directed learning happen?"

Nevertheless, in each case, SDL *did* happen. This contradiction points to the need to identify an underlying motif that would combine the various elements into a coherent whole. These links could serve as the basis for an etiological model of self-directed professional development. By tracing the recurrent major events across each story in our sample, a tentative pattern emerges (see fig. 2). The individuals' self-perceived characteristics intersect with their need for professional development. Because of environmental pressures and opportunities, the "autodidactic leap" is made. The learners, rather than engage in a carefully planned learning program, instead

find it advantageous to identify opportunities to learn within their environment. In this sense, self-directed learning as a process is more akin to creative entrepreneurship than to programmed learning. The learning opportunities, similar to business opportunities, are identified by the learners as part of their interaction with the resources found in their environment. Indeed, it can be said that the learners create the learning opportunities using the raw materials at hand. It seems that it is the learners' perception, or *interpretation* of their particular situation, and of the possibilities that it offers, that is the determining factor in their pursuit.

To summarize, our model of self-directed professional development incorporates the following elements:

1. A strongly felt need for self-development;
2. A set of self-ascribed values, characteristics, and beliefs;
3. The *autodidactic leap* , a phenomenon described by all subjects;
4. Environmental factors that are identified as "opportunities to learn";
5. An unfolding of successive learning objectives that are linked to the learners' growing awareness of their professional field.

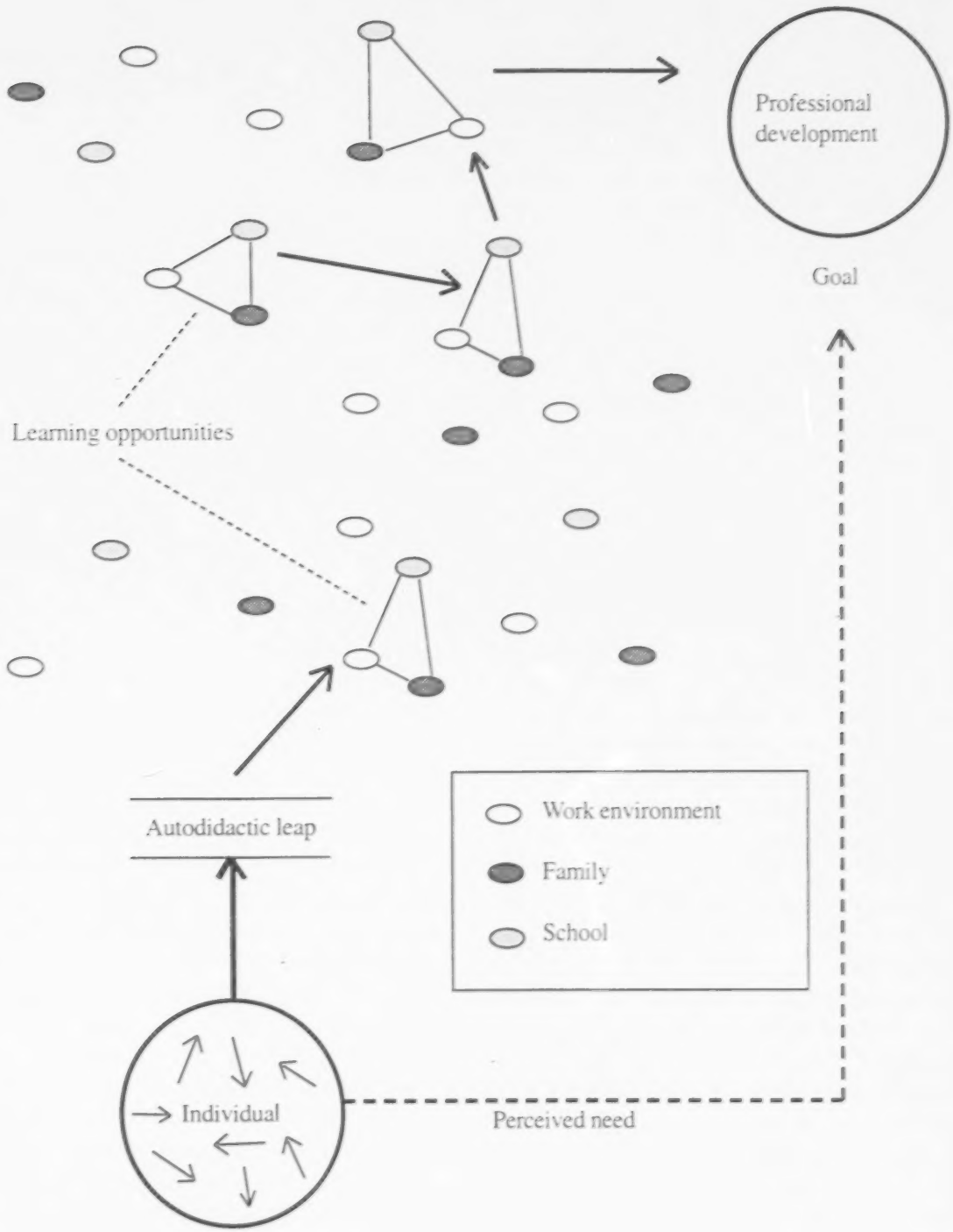

Figure 2: Self-directed learning for professional development

This model incorporates the information derived from the interviews into an interactive pattern. It shows how it is possible to understand the determinants of self-directed professional development in a way that incorporates the learner's abilities, their psychological make-up, and the particular circumstances that they encounter in their lives.

CONCLUSION

The question, "What makes Self-directed learning happen?" has several implications for the development of self-directed learning as both an area of research and practice. First, the literature raises the conjecture that formal education actually improves skills for autonomous learning. In the past, "learning to learn" has often been touted as the ultimate purpose of formal education. If it *is* true that formal schooling represents a credible venue for developing such skills, then surely this is one of the most important achievements of the educational system. By taking a closer look at the processes through which highly proficient learners acquire their skills, perhaps it would be possible to develop a curriculum that addresses that issue.

However, if self-directed learning skills are acquired "by default" and more or less universally through higher learning, it has not been shown that these skills cannot be acquired otherwise. Among the informants in our sample, some had very little formal education, while nevertheless exhibiting a remarkable capacity for self-directed learning. Several other studies support the notion that self-directed learning, in fact, occurs in every stratum of society, and in populations with extremely diverse educational backgrounds (Armstrong, 1971; Brookfield, 1982; Kondani, 1982; Serre, 1977). Hence, if formal learning represents one path for acquiring the skills for self-directed learning, it is certainly not the only one. One implication for future research is that some generic experiences could lead to an increased capacity for self-directed learning.

Another observation that emerges from the data is that some learners appear to be more proficient in situations that require self-directed, rather than other-directed approaches to learning. As was pointed out earlier, the question of the specificity of self-directed learning readiness has been a contentious one among researchers in the past. Great efforts have been deployed to identify the elusive "inner characteristics" of self-directed learners by some authors, while others have insisted that the ability to learn is transferable across learning modes - in other words, that SDL is largely the domain of individuals who display an above-average ability to learn, regardless of the type of situation. One conclusion that can be derived from the now-famous (and exceedingly entertaining) exchange surrounding that issue in the journal *Adult Education Quarterly* a few years ago (Field, 1989; Bonham, 1991; Field, 1991; Guglielmino, 1989; Long, 1989;), and more recently in the works of G. Straka (1995) is that the belief in either the specificity or non-

specificity of SDL as a learner characteristic is largely, to this day, a matter of opinion. The problem is not so much that SDL cannot be shown to be attributable to some set of inner qualities, but that some doubt remains as to the specificity of the constructs underlying the instruments devised for measuring those qualities. Our research points to a mid-point between the two opposing views. There is little doubt that self-directed learners are animated with an uncommon will to learn, but what distinguishes them from highly motivated students in formal situations, is their preference for autonomous learning (or, as was the case for several of our informants, their abhorrence of formal learning situations) within the framework of their self-perceived characteristics and aspirations.

Third, our model points to a set of occurrences that are conducive to autonomous learning *only when taken together*. A person with the potential to be a proficient self-directed learner, might not take the "leap" if other conditions are not met; opportunities to learn might not be identified without an urgently felt need for professional development; likewise, the choice to pursue learning in an autonomous mode might not be exercised in the absence of a set of specific, self-perceived personality traits such as self-reliance, ability to learn, and independent attributional style.

Finally, the question posed at the outset of this research relied implicitly on the assumption that somehow, certain factors could be found to be "favorable" to the occurrence of SDL. In fact, it was discovered that self-directed learning often occurs as a response to an adverse, rather than a propitious contingency. To be sure, certain conditions were found to be favorable to the unfolding of the learning projects, but the more striking feature of the examples under study was their apparent resiliency in the face of adversity. Our observation was that the informants perceived learning as a very real means to solve very real problems, and that hostile conditions only seemed to strengthen their resolve to succeed. It is this "problem-solving" quality that makes self-directed learning, in the context of professional development, *more* likely (and not, as was expected, *less* likely) to occur in conditions marked by a prevalence of opposing factors.

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